AUTHOR INDEX

Adams M., 331
Agnati L. F., 139
Alberghina M., 157, 229
Ali S. F., 479
Anfuso C. D., 157, 229
Araki T., 319, 541
Astle H., 413

Baba A., 149
Bach-y-Rita P., 297
Bacic F., 385
de Backer J-P., 79
Banno K., 239
Bartolami S., 419
Battastini A. M. O., 471
Beani L., 555
Becquet D., 269
Benfenati F., 27
Berger P., 61
Biagini G., 139
Bianchi C., 555
Bolin D. R., 221
Bourde O., 567
Breer H., 331
Bregola G., 555
Brett R., 35
Brochier G., 525
Brooks K. J., 441
Butman M., 575

Carbonnele A-C., 567
Carlson R. G., 485
Cerú M. P., 249
Charnay Y., 549
Chen J., 575
Cimini A. M., 249
Cockcroft V. B., 583
Cuello A. C., 123
Cumar F. A., 459
Cumcumel K., 549
Cupo A., 549
Czerwiec E., 79

De Santis M. L., 459
De-Maw Chuang., 53
Decker P., 413
Del Rio M. J., 343
Deprez P., 269
Deupree D., 485
Dias R. D., 471
Dick R. M., 479
Diksic M., 351
Dodd P. R., 131

Ebadi M., 197, 561
Ebinger G., 343
Ee-Ching Seah., 485
Elsworth J. D., 61

Fache M. P., 269
Faudon M., 269
Ferraguti F., 139
Filipovic-Grcic J., 123
Francois-Bellan A. M., 269
Fredholm B. B., 173
Fuller R. W., 467
Fuxe K., 139

Gackenheimer S. L., 373
Gehlert D. R., 373
Ghosh C., 479
Gill K. D, 451
Giorgi M., 249
Giraud P., 269
Girault J-A., 1
Gjedde A., 351
Gokhale V. S., 163
Gonzalez M. D., 459
Gorodinsky A., 285
Graham S. H., 575
Grdiša M., 351

Haglid K. G., 575
Hemrick-Luecke S. K., 467
Hery F., 269
Hery M., 269
Hsiu-Ying T. Yang., 71
Hungund B. L., 163

Igbavboa U., 45
Iino T., 399
Ishibashi T., 149
Iwata H., 149

James S., 115
Jang- Yen Wu 187, 485
Johnston G. A. R., 131
Joó F., 499
Jouvet M., 549

Kanai Y., 319, 541
Karpiak S. E., 163
Kato H., 319, 541
Katsura M., 399
Kauppinen R. A., 441
Kawasaki T., 107
Kitamura K., 239
Kogure K., 319, 541
Koyama Y., 149
Kumar A., 99
Kuriyama K., 399
Kurth J., 413

LaBate M., 413
Ladouceur G., 373
Leger L., 549
Leong D. K., 131
Li Hsueh Tsai., 187
Lindström K., 173
Lloyd H. G. E., 173
Long-Wu Zhou., 361
Longo F. M., 575
Lunt G. G., 583
Lupo G., 157, 229

Mahadik S. P., 163
Mais D. E., 373
Makar T. K., 163
Maysinger D., 123
McComb R. D., 71
Mitch C. H., 467
Monferran C. G., 459
Morel N., 525
Moreno S., 249

Motohashi N., 327
Müller J., 471
Murakami F., 319
Murphy J. A., 87
Murphy S., 407
Muzzolini A., 555

Nath R., 451
Natsukari N., 361

Ogita K., 427
Okamoto Y., 327
Ortells M. O., 583
Ortiz A., 163
Osada M., 327

Paas Y., 285
Pal R., 451
Pardo C.V., 343
Paul S., 197
Pearce B., 407
Pfeiffer R. F., 71, 561
Piccardo P., 123
Pich E. M., 139
Pinxteren J., 343
Planche M., 419
Po Yu Huang., 485
Poduslo S. E., 413
de Potter W., 79, 343
Pujol J. F., 567
Pujol R., 419

Quimby S. J., 467

Rao A. M., 45
Richard F., 567
Richardson P. J., 115
Robert F., 567
Robertson D. W., 373
Rocha J. B. T., 471
Roth G. A., 459
Roth R. H., 61
Rumsby M. G., 35, 87

Said S. I., 215
Samochocki M., 261
Sarkis J. J. F., 471
Schliebs R., 99
Schmitt P., 567
Schober D. A., 373
Schoch J., 331
Schroeder F., 45
Semotuk M., 45
Serafini B., 249
Sharp F. R., 575
Shen G. H., 71
Shimoda K., 71
Shiraga H., 561
Simonato M., 555
Spatz M., 385
Stanimirovic D. B., 385
Strosznajder J., 261
Sui-Po Zhang., 361
Suzuki T., 427

Takada A., 351
Takei K., 239
Tareilus E., 331
Taylor J. R., 61
Teichberg V. I., 285
Thal C., 567
Thomas P., 583
Tokuda Y., 107
Turner R., 87

Uematsu S., 385
Uozumi T., 107
Uyemura K., 239

Valtorta F., 27
Vander Velde D., 485
Vauquelin G., 79, 343

Wan-Wan Lin., 53
Wang S., 575
Weiss B., 361
Wood W. G., 45
Wuhong Tsai., 187

Xiao Wen Tang., 485

Yamamoto Y. L., 351
Yamawaki S., 327
Yarom M., 485
Yi-Hsuan Lee., 485
Yoneda Y., 427

Zlokovic B. V., 523
Zoli M., 139

SUBJECT INDEX

N-acetyl aspartate - in hypoxia, 441
acetylation - of lysophosphatidylcholine, 229
acetylcholine content - in rat brain, 400
acetylcholine release - effect of sulpiride, 400
acetylcholine releasing protein - mediatophore, 525
acetylcholinesterase - in rat brain, 400
- influence of ethanol and cadmium, 451
actin - interaction with myelin basic protein, 459
adenosine release - by anoxia, 173
adenosine - formation in hippocampus, 173
- release from hippocampus, 173
ATPase activity - in synaptosomes, 471
adrenal chromaffin cells - release of catecholamines, 71
adrenal medulla - serotonin and catecholamine binding proteins, 343
age related changes - of receptors, 541
- of voltage dependent calcium channels, 541
aging - lipid peroxidation not altered, 157
- release of lysosomal enzyme not altered, 157
allergic encephalomyelitis - free radical damage, 35
alpha-amino-3-hydroxy-5-methylisoxazole-4-propionate - see AMPA
α_{2a} receptors - present on striatal cholinergic neurones, 115
α_{2a}-selective ligand - ^{3}H-CGS 21680, 115
amino acid transport - in synaptosomes, 131
^{3}H-amino acid transport - reduced by antigen from Huntington disease, 131
^{3}H-AMPA binding - interactions with guanine nucleotides, 285
anoxia - release of adenosine, 173
antibodies - interaction with vasoactive intestinal peptide, 197
arachidonic acid - modulation of $GABA_A$ /chloride channel receptor, 261
ARPP-16, 15
ARPP-21, 15
ascorbate - and lipid peroxidation, 479
aspartate - K^+-induced release from hippocampus, 555
astrocytes - agonist stimulation of inositol phosphates, 407
- PKC, 407
ATP action on phosphoinositide turnover - effect of PKC activation, 53
ATP - effect on phosphoinositide turnover, 53
- in hypoxia, 441
- stimulates inositol phosphates accumulation, 53
ATPase activity - in synaptosomes, 471
autoantibodies - to vasoactive intestinal peptide, 204, 222
autoradiography - of ^{125}I-(S)-iodozacopride binding, 373

^{3}H-baclofen binding - to cerebral cortex, 327
benzodiazepine receptors - increase with swim stress, 327
- postnatal ontogeny, 99
binding proteins - to serotonin and catecholamines, 343
blood-brain barrier, 499
- recent progress, 523
blood-brain transfer of tryptophan, 351
^{35}[S]-t-butylbicyclophosphorothionate - binding to synaptic membranes, 261

C_6 glioma cells - phosphoinositide turnover, 53
cadmium accumulation - effect of calcium, 451
calcium signals - in synaptosomes, 331
calcium - involvement in VIP action, 215
calcium/phospholipid-dependent PKC - in glial cells, 87
calcium-dependent PKC - in glial cells, 87

calcium-independent PKC - in glial cells, 87
calcium-mediated damage - in hypoxia, 441
calcium/calmodulin-dependent phosphorylation - decreased by quinpirole, 361
calmodulin - interaction with vasoactive intestinal peptide, 197
cAMP levels - in synaptosomes, 331
cAMP - involvement in VIP action, 215
catalytic antibodies - interaction with vasoactive intestinal peptide, 197
catecholamine binding proteins - in adrenal medulla, 343
catecholamine release - enhanced by nicotine, 71
catecholamines - effect of MPTP and MZPT, 467
- released from adrenal chromaffin cells, 71
cerebral microvessels, 499
cGMP - factors influencing formation in microvessels, 506
^{3}H-CGS 21680 - binding associated with acetylcholinesterase, 115
- binding of the A_{2a}-selective ligand, 115
channels - phosphorylation, 9
chemiluminescence method - for superoxide dismutase, 107
chloride-dependent glutamate transport - effect of glutamate, 149
cholesterol domains, 45
cholesterol pools - effect of the hydrolysis of sphingomyelin, 45
cholesterol - in synaptosomal membranes, 45
choline acetyltransferase - in rat brain, 400
cholinergic markers - of different brain areas, 529
cholinergic neurones - presence of A_{2a} receptors, 115
- effect of vinconate, 399
chromatographic analysis - of enkephalin immunoreactivity, 549
cocaine-insensitive - dopamine uptake, 61
cocaine-sensitive - dopamine uptake, 61
cochlea - muscarinic receptors, 419
coexistence - of VIP with other transmitters, 216
colchicine - effect on enkephalin immunoreactivity, 549
Conus tessulatus venum - selectively maskes M1-receptors, 79
cortical membranes - binding of muscimol and flunitrazepam, 100

DARPP-32, 13
DARPP-32 immunoreactivity - effect of ischemic insults, 139
diamine systems in the brain, 303
dopamine neurones - protein phosphorylation, 12
dopamine receptors - effect of quinpirole, 361
dopamine uptake - cocaine sensitive and insensitive, 61

endothelial cells - of microvesssels, 499
endothelin-1 - stimulation of prostaglandins, 385
- stimulation of prostanoids, 385
endothelium - formation of prostaglandins, 385
enkephalin immunoreactivity - in nucleus locus coeruleus of the cat, 549
- influence of colchicine, 549
enzymes - associated with peroxisomes, 249
ethanol - effect on cadmium accumulation, 451

fatty acid levels in membranes - restored by GM1, 163
- reduced following ischaemia, 163
^{3}H-fenflunitrazepam binding, 485
fibroblasts - genetically engineered to secrete NGF, 123
^{3}H-flunitrazepam binding - to cerebral cortex, 327
- to cortical membranes, 100
free radical damage - in allergic encephalomyelitis, 35

GABA receptors - not altered in cortex after swim stress, 327
GABA - modulation of serotonin synthesis and release, 269
- physiological effects on stomach muscle, 187
$GABA_A$ receptors - in stomach, 187
- isolation of endogenous modulators, 485
- postnatal ontogeny, 99

$GABA_A$/chloride channel receptor - in adult and aged rats, 261
- modulation by arachidonic acid, 261
GABAergic neurones - in stomach, 187
genetically engineered fibroblasts, 123
gerbil - global ischaemia, 107
glial cells - PKC, 87
glial - neuronal communication, 302
global ischemia - in gerbil, 107
glucose regulated protein (grp78) nRNA - in seizures and ischaemia, 575
^{3}H-glutamate binding, 485
glutamate receptors - pharmacology, 591
- homologies and disparities, 583
glutamate transport - effect of ouabain, 149
- in synaptic membrane, 149
glutamate - in hypoxia, 441
glycine - modulation of serotonin synthesis and release, 269
glycoprotein - PO-like in nature, 239
GM1 - see monosialoganglioside
growth factors - receptors, 12
growth hormone releasing factor - receptors, 197, 222
guanine nucleotides - interaction with binding of ^{3}H-AMPA and ^{3}H-kainate, 285

heat shock protein (hsp70) mRNA - in seizures and ischaemia, 575
hippocampus - release of aspartate, 555
- synaptosomes, 556
HNK-1/L2 carbohydrate epitope - and PO-like glycoprotein in carp brian, 239
Huntington disease - an antigen reduces amino acid transport, 131
Huntington disease - an antigen reduces kainate binding, 131
5-HT_3 receptors - binding of ^{125}I-(S)-iodozacopride, 373
hypoxia - calcium-mediated damage, 441
- metabolism monitored by NMR, 441
6-hyroxydopamine - effect on brain metallothionein, 561

indole-pyruvic acid - converted to kynurenic acid, 139
- reduces ischaemic damage, 139
inositol phosphates - stimulated by ATP, 53
- stimulation in asctrocytes, 407
inositol trisphosphate - levels in synaptosomes, 331
^{125}I-(S)-iodozacopride - binding to 5-HT_3 receptors, 373
iron - and lipid peroxidation, 479
ischaemia - ^{3}H-nalaxone binding in striatum and hippocampus, 319
- effect on grp78 and hsp70 mRNAs, 575
- effect on learning, motor tests and DARPP-32, 139
ischaemia/reperfusion - effect on superoxide dismutase, 107
ischaemic damage - reduced by indole-pyruvic acid, 139
ischaemic tissue - membrane fatty acid levels reduced, 163

^{3}H-kainate binding - in synaptosomes, 131
- inhibited by an antigen from Huntington disease, 131
- interactions with guanine nucleotides, 285
kainic acid-induced seizures, 575
kynurenic acid - formed from indole-pyruvic acid, 139

lactate - in hypoxia, 441
lipid peroxidation - influence of ethanol and cadmium, 451
- influence of iron/ascorbate, 479
- not affected in aging, 157
locus coeruleus - tyrosine hydroxylase activity, 567
long term potentiation, 306
lysophosphatidylcholine - peroxidation and acetylation, 229
lysosomal enzyme release - not affected in aging, 157

M1-receptors - selectively masked, 79
mediatophore - a lipoprotein, 525
- an acetylcholine releasing protein, 525
membrane fatty acids - reduced following ischaemia, 163

membrane fluidity, 479
metallothionein - effect of 6-hydroxydopamine or oxidative stress, 561
- in brain, 451
microvessels - cGMP, 506
- molecular biology, 509
- of the cerebrum, 499
- pathophysiology, 510
MK-801 - interaction with phosphatidylserine for NMDA receptor, 427
modulators - endogenous forms for $GABA_A$ and taurine receptors, 485
molecular biology - of brain microvessels, 509
monoamine systems in the brain, 303
monosialoganglioside (GM1) - restores fatty acid levels, 163
motor tests - effect of ischaemia, 139
MPTP - effect on catecholamines, 467
muscarinic binding - in cochlea, 419
muscarinic M1-receptors - in retina, 79
muscarinic receptors, 479
muscimol binding inhibitor, 485
^{3}H-muscimol binding, 485
- to cerebral cortex, 327
- to cortical membranes, 100
- to synaptic membranes, 261
myelin basic protein -interaction with actin, 459
MZTP - effect on catecholamines, 467

^{3}H-nalaxone binding - following ischaemia, 319
- to striatum and hippocampus, 319
nerve growth factor - released from fibroblasts, 123
neuromodulation, 301
neuronal communication - role of glia, 302
neuronal cultures - of raphe cells, 269
neuropeptide Y antiserum - enhances catecholamine release, 71
nicotine - enhances catecholamine release, 71
nicotine-mediated catecholamine release - enhanced by NPY antiserum, 71
nitric oxide, 305
NMDA receptors - interactions of MK-801 and phosphatidylserine, 427
NMR - of brain components, 485
- used to monitor metabolism in hypoxia, 441
nonsynaptic diffusion transmission, 297
nuclear magnetic resonance = NMR

ontogeny - of benzodiazepine and $GABA_A$ receptors, 99
ouabain - decreases chloride-dependent glutamate transport, 149
- effect on glutamate transport, 149
oxidative stress - effect upon metallothionein, 561

pathophysiology - of brain microvessels, 510
peroxidation - of lysophosphatidylcholine, 229
peroxisomes - enzyme activities, 249
- purification from rat brain, 249
pH - intracellular levels in hypoxia, 441
phosphatidylserine - interaction with MK-801 for NMDA receptor, 427
phosphocreatine - in hypoxia, 441
phosphoinositide turnover - effect of ATP, 53
- in C_6 glioma cells, 53
phosphoinositides - involvement in VIP action, 215
phosphoprotein phosphatases, 6
phosphoproteins - presynaptic membranes, 30
- synaptic vesicles, 27
phosphorylation - influence of quinpirole, 361
- of dopamine neurones, 12
- regulation of ion channels, 9
^{3}H-pirenzepine binding - to retinal membranes, 82
PKC - down regulation in astrocytes, 407
plasma proteins - binding of tryptophan, 351
plymerase chain reaction - identification of proteolipid protein, 413

polymorphism -in gene for proteolipid protein, 413
postnatal development - of ATPase/ADPase activities, 471
potassium-induced release of aspartate, 555
PO-like glycoprotein - in carp brain, 239
- similarity to HNK-1/L2 carbohydrate epitope, 239
presynaptic membrane - phosphoproteins, 30
prostaglandin formation - in capillary endothelium, 385
prostaglandins - effect of endothelin-1, 385
prostanoids - effect of endothelin-1, 385
- formed in endothelium, 385
protein dephosphorylation, 1
protein kinase C - involved in desensitization of ATP effect, 53
protein kinase C - see PKC
protein kinase inhibitors, 5
protein kinases - classification, 2
- structure, 3
protein phosphorylation, 1
- in cerebral endothelium, 507
proteolipid protein gene, 413
proteolipid - of 15 KDal identified as a subunit of mediatophore, 525

^{3}H-QNB - binding, 479
- in cochlea, 419
- to retinal membranes, 81
quinpirole - decreases calcium/calmodulin-dependent phosphorylation, 361
- effect on dopamine receptors, 361

raphe primary neuronal cultures, 269
receptor plasticity, 302
receptors - age related changes, 541
- for growth factors, 12
- of neurotransmitters in gerbil brain, 541
receptor-coupled - responses in astrocytes, 407
retina - M1-receptors, 79
retinal membranes - binding of muscarinic ligands, 81
RU24722 - effect on tyrosine hydroxylase, 567
RU24722 = vindeburnol

seizures - effect on grp78 and hsp70 mRNAs, 575
- induced by kainic acid, 575
serine/threonine kinases, 3
serine/threonine/tyrosine kinases, 3
serotonin binding proteins - in adrenal medulla, 343
serotonin release - modulation by GABA, glycine and taurine, 269
serotonin synthesis - modulation by GABA, glycine and taurine, 269
sodium/potassium ATPase - influence of ethanol and cadmium, 451
sphingomyelin - hydrolysis, 45
- hydrolysis on cholesterol pools, 45
stress - increases benzodiazepine receptors, 327
sulpiride - effect on acetylcholine release, 400
superoxide dismutase - activities in ischaemia insulted tissues, 107
- chemiluminescence method, 107
synapsins, 28
synaptic membranes - binding of ligands to $GABA_A$/chloride channel, 261
- glutamate transport, 149
synaptic vesicles - phosphoproteins, 27
synaptophysins, 29
synaptosomal membranes - cholesterol, 45
synaptosomes - ATPase and ADPase activities, 471
- calcium signals, cAMP and inositol trisphosphate levels, 331
- of hippocampus, 556
synaptotagmin, 29

taurine binding, 485 3H
taurine receptors -isolation of endogenous modulators, 485
taurine - modulation of serotonin synthesis and release, 269

transient cerebral ischaemia - in geril, 319
tryptophan - binding to plasma proteins, 351
tyrosine hydroxylase - effect of RU24722, 567
- in locus coeruleus, 567
tyrosine kinases, 3

vacuolar type H^+ATPase, 525
vasoactive intestinal peptide - autoantibodies, 204, 222
- coexistence with other transmitters, 216
- functions, 216
- receptors, 197
- second messengers, 215
- structure, 197, 222
- interactions with calmodulin and antibodies, 197
venum of Conus tessulatus - selectively masks M1-receptors, 79
vinconate - effect on cholinergic neurones, 399
vindeburnol - see RU24722
VIP - see vasoactive intestinal peptide
visual cortical layers - benzodiazepine and $GABA_A$ receptors, 99
voltage dependent calcium channels - age related changes, 541

water t-maze learning - effect of ischaemia, 139

PRINTED BY BPCC-AUP ABERDEEN LTD